

MOTORCYCLE HUNIER OWNER'S MANUAL



IMPORTER
AMERICAN LIFAN, INC
9272 HYSSOP DRIVE,
RANCHO CUGAMONGA, CA
UNITED STATES 91730



OWNER'S MANUAL MOTORCYCLE HUNIER



Manufactured by: JIANGMEN QIPAI MOTORCYCLE CO., LTD.
Imported by: AMERICAN LIFAN, INC.

PREFACE

Thank you for choosing the motorcycle. May you enjoy riding all time.

The manual contains the necessary instructions and guidance with respect to the operation and maintenance of the motorcycle, and **BE SURE TO READ IT CAREFULLY BEFORE YOU RIDE THE MOTORCYCLE**. Proper operation and maintenance can guarantee a safe riding to minimize troubles of the motorcycle and keep it in a sound condition which can extend the engine service life.

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IMPORTANT NOTICES

- **Operator and Passenger**

HUNIER is designed to carry the operator and one passenger. The maximum load weight of the motorcycle must not exceed 160kg.

- **On-road**

HUNIER is designed for on-road use.

Pay special attention to statements preceded by the following words:

⚠ WARNING: Indicates a strong possibility of severe personal injury or death if instructions are not followed.

⚠ CAUTION: Indicates a possibility of equipment damage if instructions are not followed.

NOTE: Give helpful information.

Environmental Protection (EP): Indicates special precautions that must be taken to meet environment protection laws and regulations. Improper use of a motorcycle may cause environment pollution.

If the operator fails to follow the safe operating and maintenance practices, the Co. will not take any responsibility to any injury or damage occurred.

This manual should be considered as a permanent part for the motorcycle and should remain with the motorcycle when resold.

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TROUBLESHOOTING

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SPECIFICATIONS

MOTORCYCLE SAFE RIDING

SAFE RIDING RULES

⚠️WARNING Carefully read the instructions in the “PRE-RIDE INSPECTION” before riding and take notice of the traffic safety when driving to guarantee the safety of drivers, passengers and motorcycles.

● Always make a pre-ride inspection before you start the engine and check the fasteners, connectors and adjusters, confirm the working condition to avoid the accidents and parts damage.

● Most countries requires a special motorcycle riding test or license. Make sure you are qualified before your ride. NEVER lend your motorcycle to an inexperienced rider.

● Make yourself conspicuous to help avoid the accident that wasn't your fault.

⚠️WARNING

● Wear bright or reflective clothing.

● Don't excessively close to other vehicles and proper use lights and horns.

● Don't speedily cross another's way.

● Obey all national and local laws and regulations.

● Obey the speed limits, and NEVER travel faster than conditions warrant.

● Signal before you make a turn or lane change to draw other motorists' attention.

● Use extra caution at intersections, parking lot entrances and exits.

● Always remember to ride with both hands and keep both feet on the rider footrest while the passenger grasps the handrail with both feet on the rear footrest.

PROTECTIVE CLOTHS

● For the safety sake, always wear a helmet, a face shield, dust glasses and protective gloves.

● The exhaust system becomes hot during operation, and it remains hot for a while after stopping the engine. Take care not to touch the exhaust system while it is hot. Wear clothing that fully covers your legs.

● Do not wear loose clothing that could catch on the control levers, wheels, etc.

REFITTING

⚠️WARNING Arbitrarily refitting the motorcycle or removing the parts

may make unsafe riding and is illegal also. The user must obey all national and local laws and regulations in relation to vehicle and traffic. If you have a good proposal concerning refitting of the motorcycle, please write us. The refitment can be done with permission of the Co. Otherwise, the user will take the consequences.

LOADING

⚠️WARNING The motorcycle has definite distribution requirements on load bearing, improper loading will affect the performance, stability and safe operating speed.

● Keep cargo and accessory weight lower and close to the center of the motorcycle. Load weight equally on both sides to minimize imbalance. As weight is located further from the motorcycles's center of gravity, handling is proportionally affected.

● Adjust tyre pressure and rear suspension to suit load weight and riding conditions.

● Make sure that cargo is fastened on the vehicle.

● Do not attach items to the handlebars, fork or fender. Otherwise, unstable handling or slow steering response may occur.

● The maximum load weight of the motorcycle is 160kg. Please do not overload.

ACCESSORIES

● Genuine accessories of Motors have been specifically designed and tested on the motorcycle. Because the factory cannot test all other accessories, you are personally responsible for selection, installation and use of accessories not produced by the Co. Always follow Safe Riding Rules as below:

● Carefully inspect the accessory to make sure that it does not obscure any lights, reduce ground clearance or banking angle, or limit suspension travel, steering travel or control operation.

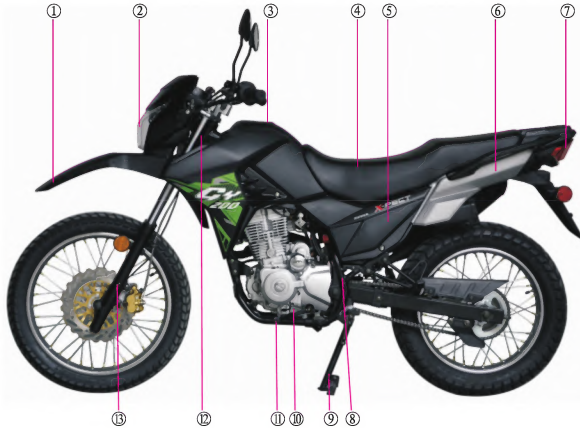
● Do not install other cooling equipment for the engine.

● Do not add electric equipment that will exceed the motorcycle's electrical system capacity and blow fuse to cause the danger of lights not bright in night driving.

GENERAL INFORMATION

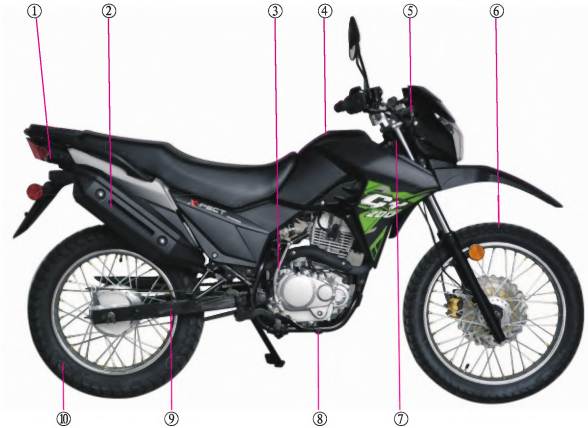
PARTS LOCATION (Fig. 1-3)

Fig. 1 (Left-view)



- ① Front fender ② Headlight ③ Fuel filler cap ④ Seat ⑤ Side cover
⑥ Rear panel ⑦ Taillight ⑧ Frame ⑨ Side stand ⑩ Engine number
⑪ Gearshift pedal ⑫ Nameplate ⑬ Front shock absorber

Fig. 2 (Right-view)



- ① Rear winker ② Exhaust muffler ③ Starting arm ④ Fuel tank
⑤ Front winker ⑥ Front wheel ⑦ VIN ⑧ Rear brake pedal
⑨ Rear fork ⑩ Rear wheel



Fig.3

- ①Left handlebar control
- ②Meter
- ③Front fairing
- ④Right handlebar control
- ⑤Rear-view mirror

MOTORCYCLE IDENTIFICATION (Fig. 4-6)



Fig.4

①VIN



Fig.5

②Engine Code & Type



Fig.6

③Nameplate

〔VIN RECORD〕

VIN:

☆ ☆

Engine Code:

Engine Type:

☆ ☆

Please fill the VIN and engine code of your motorcycle in the blank above. They will help you order spare parts and find out the vehicle when stolen.

〔VIN LOCATION〕

- ①The VIN is stamped on the right of steering stem.
- ②The engine code/type is stamped below the left of crankcase.
- ③The vehicle nameplate is fixed in the left of steering stem.

FUEL AND ENGINE OIL (EP)

Fuel Selection

Fuel is a key factor in deciding the exhaust emission from the engine, so selection of fuel must follow the rules below. Selected fuel must be unleaded gasoline with octane No. RQ-87 or higher.

Engine Oil Selection (Fig.7)

The quality of engine oil plays a vital role in deciding the engine performance and service life. Engine oil must be selected in accordance with rules below. Other oils such as ordinary engine oil, gear oil and vegetable oil are forbidden to be used.

The vehicle has been filled with engine oil SAE 15W/40 before being delivered. The lubricant is only suitable at a temperature range within $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$. Viscosity varies with regions and temperatures, if other engine oil is to be used instead, the alternative has to be selected according to our recommendation in Fig.7. Before replacement, drain off the engine oil in crankcase and wash it clean with kerosene catharsis, then refill the new oil.

If there is no gasoline engine oil SAE15W/40, the engine oil HQB-10 can be used instead (or the HQB-6 under -10°C).

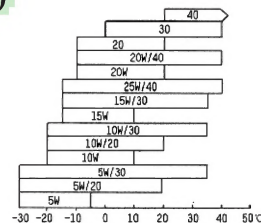


Fig.7

CONTROLLING PARTS

METER AND INDICATORS (Fig.8)

- ①Tachometer
- ②Gear indicator
- ③Turn left signal indicator “←”
- ④Neutral indicator “N”
- ⑤Speedometer
- ⑥Hi-beam indicator “≡D”
- ⑦Turn right signal indicator “→”
- ⑧Odometer ⑨Fuel gauge
- ⑩EFI MIL: it will be always on when the engine is working, and if there is a fault, the indicator will flash, for the detailed fault code, refer to page 15.
- ⑪Button A ⑫Button B



Fig.8

Function of buttons:

1. Button A
 - 1) Short press (less than 1s) the button, TRIP/TOT mode can be changed over;
 - 2) At ODO mode, long press (more than 2s) the button, the metric/british system can be changed over.
 - 3) At TRIP mode, long press (more than 2s) the button, the read will turn to “0”.

2. Button B
 - Short press (less than 1s) the button, backlight color can be changed.

IGNITION SWITCH AND STEERING LOCK (Fig.9)

Ignition Switch

The ignition switch is equipped with 2 keys including a spare one.
“ON” OFF: Engine and lights cannot be operated and the key can be removed.

“ON” ON: Engine and lights can be operated, neutral light “N” is lit and the key can’t be removed.

Steering Lock

To lock the steering head, turn the steering bar to left or right until it can’t move, then depress the key when it at the “ON” position and turn counterclockwise to “Lock” position. To unlock the steering head, turn the key clockwise.



Fig.9

Steering lock Ignition sw.

RIGHT HANDLEBAR CONTROLS (Fig.10)

Electric Starter Button

The motorcycle is equipped with an electrical starter button “ON”, depress the button to start up the engine. The emergency switch is at “ON” position. Don’t use the electrical starter for more than 10s at a time.

Emergency Switch

In an emergency, setting the switch to “ON” will stall the engine at once. In normal cases, always set it at “ON”.

Throttle Grip

The grip is used to control the engine power. Turning inward will increase fuel supply, while turning outward will decrease fuel supply.

Front Brake Lever

Grasp the front brake to brake the front wheel.

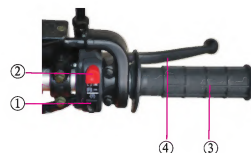


Fig.10

- ①Electric starter button
- ②Emergency sw.
- ③Throttle grip
- ④Front brake lever



LEFT HANDLEBAR CONTROLS (Fig.11)



- ①Dimmer sw.
- ②Turn signal sw.
- ③Horn button
- ④Clutch lever
- ⑤Passing light sw.

Fig.11

Dimmer Switch

Push the switch to “” to turn on the high beam; push the switch to “” to turn on the low beam.

Turn Signal Switch

Move the switch to “” to signal a left turn; and to “” to signal a right turn.

Horn Button

Press the button “” to sound the horn.

Clutch Lever

It is designed to disengage/engage the crankshaft from/with the transmission and rear wheel for starting the engine or gearshifting.

Passing Light Switch

If required, press the button, the highlight will be turned on.

REFUELING AND FUEL FILLER CAP

Opening of Cap (Fig.12)

● The fuel filler cap is located in the front of top fuel tank. Open the lock cover and insert the ignition switch key.

● Turn the key to the right by 90°.

● Remove the cap.

Only depress it to close the cap.

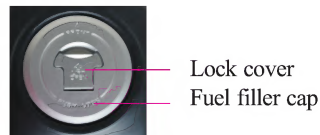


Fig.12

⚠WARNING

● Do not overfill the tank (there should be no fuel in the filler neck). After refueling, make sure the fuel filler cap is closed securely.

● Gasoline is extremely flammable and is explosive under certain conditions. Refuel in a well ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the area where the fuel tank is refueled.

● Before refueling, make sure to filter fuel first.

FUEL COCK (Fig.13)

● Fuel cock is installed under the left of fuel tank, turn the handle and make the arrow to point “OFF” (Fig.13-2). When the vehicle is free, fuel cock handle should be at “OFF” position.

● When starting the vehicle, turn the fuel cock handle and make the arrow to point “ON” position (Fig.13.1)

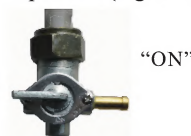


Fig.13-1



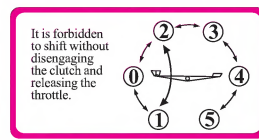
Fig.13-2

GEARSHIFT PEDAL (Fig.14&Fig.15)

This type of motorcycle is equipped with a 5-speed mesh transmission. Step the pedal the gear indicator will be bright when in the right position. Its shifting patterns are shown in Fig.14



Gearshift pedal



International gearshift pattern

Fig.14

Fig.15

REAR BRAKE PEDAL (Fig.16)

The rear brake will function and the rear stop light will glow when applying the pedal.



Fig.16

STANDS (Fig.17 & Fig.18)

When parking the vehicle, turn the side stand clockwise along the frame to the end. Before driving the vehicle, turn the side stand to the initial position.

⚠CAUTION Be sure to put the side stand away before driving the motorcycle. Otherwise, it may fall over.



Fig.17



Fig.18

ADJUSTMENT OF HEADLIGHT(Fig.19)

To adjust the height of high beam or low beam as shown in Fig.19, just rectify the screw at the back of headlight with a screw driver to meet the driver's demand.



Fig.19

OPERATION GUIDE


PRE-RIDE INSPECTION

Inspect your motorcycle every time before you ride it. The items listed here will only take a few minutes to inspect, and in long run they can save time, expense and possibly your life.

1. Engine oil level - Add engine oil as required and check for leaks.
2. Fuel level- Refuel when necessary and check for leaks.
3. Front and rear brakes- Check operation and adjust free play if necessary.
4. Tyres- Check wear conditions and pressure.
5. Throttle- Check for smooth opening and full closing in all steering position. Adjust or replace it if necessary.
6. Lights and horn- Check the headlight, tail/stop light, wipers, parking light, indicators and horn for proper function.
7. Drive chain- Check the condition and slack. Adjust and lubricate it if necessary.
8. Fasteners- Check all nuts, screws and bolts are mounted securely.
9. Steering system - Check for smooth and reliable operation.

STARTING THE ENGINE

⚠CAUTION Do not start the engine in a narrow area to prevent accidents. Attempting to start engine with the transmission in gear may result in damage to equipment. Before starting, operate as follows:

- Turn the ignition switch to “” position and insert the key.
- Move the gearshift pedal into the NEUTRAL to light up the indicator “N” (in green).

⚠CAUTION Be careful not to step the starting rod abruptly in kick-start and avoid to bound to hurt your feet and engine case.

BREAKING-IN

Help assure your motorcycle's future reliability and performance by paying extra attention to how you ride the first 1000km. During this period avoid full throttle riding and changing speed continually, be sure to drive at a speed no

more than 60% of each gear. After the breaking-in period, be sure to conduct maintenance so as to make compensation for initial wear. The service life will be extended obviously through such maintenance.



RIDING

- Start the engine and warm up.
- While the engine in idling, disengage the clutch and shift the gear to low (1st) gear.
- Slowly release the clutch lever and at the same time gradually increase the engine speed by opening the throttle.
- When the motorcycle attains a steady speed, close the throttle, disengage the clutch and shift to 2nd by treading the gearshift pedal. This sequence is repeated to progressively shift to higher gears (shown in Fig.14 and Fig.15 of page 5).
- Coordinate the throttle with brakes for smooth deceleration.
- Both front and rear brakes should be used at the same time and be not applied strongly to lock the wheel, or braking effectiveness will be reduced and control of the motorcycle be difficult.

⚠CAUTION It is forbidden to gearshift up or down when the throttle is still not decreased and the clutch is in. Otherwise, damage to the engine, chain and other parts may occur.

BRAKING AND PARKING

To stop the motorcycle, close the throttle and disengage the clutch by pulling in the clutch lever, then smoothly operate the front and rear brakes until stopping the motorcycle.

Shift the transmission into neutral, turn the emergency switch to “” position. Then support the motorcycle with side stand. After parking, turn the ignition switch to “” position to lock the steering head, followed by removing the key.

MAINTENANCE

TOOL KIT (Fig.20)

Some roadside repairs, minor adjustments and parts replacement can be performed with the tools available in the kit.

- ① Screw driver grip
- ② Double-ended screw driver
- ③ Spark plug wrench (16#×18#)
- ④ Open-ended spanner, 8mm×10mm
- ⑤ Open-ended spanner, 13mm×15mm
- ⑥ Inner hex spanner, 5mm
- ⑦ Tool bag

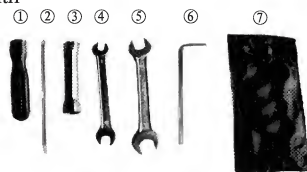


Fig.20

MAINTENANCE SCHEDULE

To keep the performance good, the motorcycle should be checked and maintained at certain interval. The meanings of capital in following table are:

I: Inspection, including check, clean, lubricate, refuel, repair or replacing if necessary.

A: Inspection, adjusting if necessary C: Cleaning R: Replacing L: Lubricate

NOTES:

①* There items should be serviced by your dealer, unless the owner has the proper tools and is mechanically qualified. Refer to the manual.

②** In the interest of safety, we recommend these items should be serviced only by your dealer.

Items \ Maintenance period	Odometer (km)						
	First 1000	3000	6000	9000	12000	15000	18000
**Engine Oil	R	R	R	R	R	R	R
**Spark Plug			I		R		I
**Valve Gap	A		A		A		A
**Idle Speed			A		A		A
*Engine Bolt			I		I		I
*Oil Filter	C		C		C		C
*Fuel Strainer			C		C		C
*Fuel Line			I		R		I
*Air Cleaner			C		R		C
*Drive Chain	IL		IL		IL		IL
Throttle/Clutch Cable			I		I		I
Brake Shoes/Pad Wear			I		I		I
Chain Guard			I		I		I
Brake System			I		I		I
Brake Light Switch			I		I		I
Brake Liquid			I		I		I
Clutch			I		I		I
Suspension			I		I		I
Nuts, Bolts, Fasteners			I		I		I
Wheel/Tyre			I		I		I

ENGINE OIL (EP)

Check of Engine Oil (Fig.21)

Check the engine oil level before driving.

A hole is located at the rear of crankcase cover to view the level, which must be maintained between H mark and L mark.

● Place the motorcycle on a level ground that vertical to it. Check the oil level from the view hole.

● Add engine oil SAE 15W/40 to H mark level. Do not overfill.

● Reinstall the dipstick. Check and make sure that no leakage is found.

NOTE Running the engine with insufficient oil can cause serious damage to it.

Change of Engine Oil (Fig.22)

● It is better to drain when the engine is still warm.

● Place an empty container under the engine, unscrew the drain plug.

● Step the starting rod for several times to empty the oil.

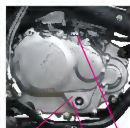
● Reinstall the drain plug and tighten it up.

※Pour approximate 1.1L of SAE 15W/40 gasoline into the engine and restart it. Keep it idle for a few minutes, and then stall it. Recheck the oil level, and add oil if necessary.

CAUTION When running in very dusty conditions, oil changes should be performed more frequently than specified in the maintenance schedule. Please dispose of used engine oil in a manner that is reclaimed by the qualified department in local.

CLEAR AWAY CARBON DEPOSIT (EP)

Clear away carbon deposit around the spark plug and piston ring, on the piston top, in the piston slot and combustion chamber regularly.



- ① H mark
- ② L mark
- ③ Dipstick

Fig.21



Drain plug

Fig.22

SPARK PLUG (EP) (Fig.23)

Spark Plug Type : As stated in "SPECIFICATIONS"

Check and Replace

● Spark plug is located on the upper right of cylinder head, disconnect the spark plug cap and clean any dirt around. Remove the spark plug by the special wrench.

● Inspect the electrodes and center porcelain for ablations and deposits. Replace the spark plug when too much ablations and deposits on or the insulator with cracks or drops. Clean the deposits and dirt with brush.

● Check the spark plug gap which should be 0.8~0.9 mm, and adjust it by bending the side electrode if necessary.

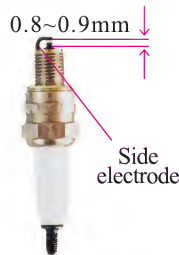


Fig.23

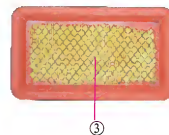
AIR CLEANER (EP) (Fig.24)

The air cleaner must be cleaned and then soaked in clean oil at least once every 3,000km's drive. Riding in a very dusty area, the job should be done more often. See your dealer for correct maintenance schedule according to your driving condition.

● Disconnect screws on the side cover to remove it, then disconnect screws on the seat and take it down. Finally open the air cleaner cover to remove the element.

● Replace a new air cleaner element.

● Reinstall the air cleaner element and cover in the reverse order of removal.



- ① Screw
- ② Air cleaner cover
- ③ Air cleaner element

Fig.24

VALVE CLEARANCE (Fig.25)

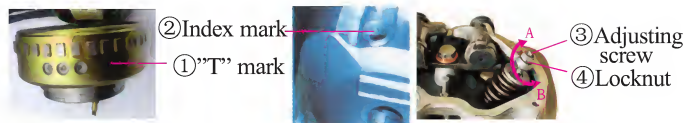


Fig.25

Check or adjust the valve clearance when the engine is cold.

- Remove the view hole cap, magneto cap and cylinder head cover on the front-left cover, .
- Rotate the magneto rotor counterclockwise until mark T ① aligns with the index mark ②. Touch the rocker arms to see if the piston is in TDC of the compression stroke, if the rocker arm is free, it is right. Otherwise, rotate the rotor through 360° and align with the mark T.
- Clearance should be 0.03mm for the intake valve and 0.05mm for the exhaust valve.
- If it is necessary to make an adjustment, loosen the valve locknut ④ and turn the adjusting screw ③. Rotate towards direction A, the valve clearance will decrease, or towards direction B, it increases. Then tighten the locknut ④ up and recheck the valve clearance.

EXHAUST MUFFLER (EP)

Regularly clear away carbon deposit in the exhaust pipe, check the exhaust pipe inside for crack and washer for damage, repair or replace it if necessary.

NOTE After each disassembly, the muffler gasket should be replaced. Be careful not to hurt by the high temperature of exhaust pipe after the engine runs for a short time.

WORKING PRINCIPLE OF EFI

EFI system transforms parameters such as inlet air quantity, cooling water temperature and engine working conditions (such as engine RPM, acceleration/deceleration), etc. obtained by various sensors into electric signals which are input to ECU. After comparing these with stored information and calculating correctly, ECU will output control signals. ECU can not only control the fuel supply accurately to instead of the traditional carburetor, but also control the ignition advance angle and idle air flow to greatly improve the engine performance. ECU is the core of EFI system and characterized by closed-loop control of computer, and directly work on ignition, fuel injection and three-catalytic converter post-treatment.

For the convenience of maintenance, a malfunction diagnosis logic is developed. When there is something wrong with the EFI system, the MIL will be lit to warn users to repair, also the diagnosis scanner can be used to read the malfunction details and parameter of engine working condition.

● Characteristics of EFI system

- [1] The core control logic of EFI system adopts the “Speed-density” method, which has been widely used in automobile with high reliability.
- [2] The system can judge the altitude and allows the engine to run well at different altitude.
- [3] The inductive ignition is used to greatly increase the ignition energy and improve the combustion efficiency.
- [4] The 36-2 teeth magneto is adopted to improve the calculation accuracy of ignition advance angle. Also the system can control the engine's ignition time intelligently to keep the engine always working in the best condition without any knock.
- [5] When the motorcycle don't need power so as to loosen the throttle at deceleration, sliding and downhill running, the EFI system can break fuel supply in time in order to avoid fuel waste and air pollution.
- [6] When it accelerates suddenly, the EFI system can respond immediately

and give adequate fuel to allow the rapid acceleration and stability of motorcycle, that will avoid the violent starting and improve the driving performance.

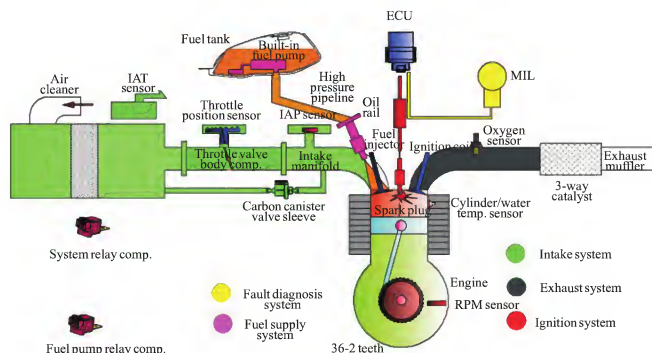
[7] The temperature correction function of EFI system can make the motorcycle has a very prominent hot/cold starting performance, where both starting can be triggered at once.

[8] The closed-loop controlled by the EFI system through a oxygen sensor can always keep the engine in a good working condition.

[9] The idle air quantity of engine controlled by the EFI system through a carbon canister valve that can maintain the stable idle speed.

[10] The MIL or malfunction diagnosis scanner can be used to judge the problem, so that the maintenance is simple and easier.

EFI PRINCIPLE DRAWING



COMPONENTS OF EFI SYSTEM

Component Property	Name	Description
Component of EFI System	ECU	Computer program, chips, electronic elements and circuit board are included.
	Throttle valve body Assy.	Throttle valve body and position sensor are included.
	Oxygen sensor	In closed-loop control, to test the oxygen content after combustion in engine.
	Cylinder/water temperature sensor	To measure the engine temperature.
	IAT sensor	To measure the intake air temperature of engine.
	IAP sensor	To measure the load.
	Fuel pump	To supply the constant fuel pressure.
	Fuel injector	To inject fuel to engine.
	Fuel rail	To connect to the fuel injector.
	Carbon canister valve	To supplement the idle air quantity of engine.

Spare Parts (Whole Vehicle)	Fuel tank	Dedicated part for EFI, with inlet/outlet port
	Oil hose	Dedicated part for EFI, used for connecting to oil circuit
	Exhaust muffler	Dedicated part for EFI, installed with oxygen sensor and 3-way catalytic converter
	3-way catalytic converter	Installed in the exhaust muffler
	Throttle cable	Dedicated part for EFI
	Wire harness	Dedicated part for EFI
	Fuel pump relay	Supply oil to fuel pump
Spare Parts (Engine)	Magneto Assy.	Include 36-2 teeth magnetic cylinder, coil and speed sensor
	Rectifier	To match with magneto, 3-phase
	Ignition coil	Inductive
	Intake manifold	To install with fuel injector and rail

ECU (Fig.26)

ECU is the control center of whole EFI system, and decides the best fuel injection timing, fuel supply and ignition advance angle by analysing and processing the parameters from IAP/IAT sensor, cylinder/water temperature sensor, speed sensor, throttle position sensor and oxygen sensor to meet the optimal performance and exhaust requirement.

Working condition of ECU:

- [1] Power supply range: DC $12 \pm 2V$, provided by the battery;
- [2] Ambient temperature: $-25^{\circ}C \sim 85^{\circ}C$;
- [3] Refer to the Electric Diagram for each interface definition;
- [4] ECU numbering rule: ECU type + Vehicle type + ECU batch number

NOTE

- [1] Do not plug in or unplug the ECU controller with electricity, otherwise it can be damaged and causes the unable driving of motorcycle.
- [2] It is forbidden to dismantle the ECU or pry the pin in the socket with solid objects, or else it will cause damage.
- [3] Do not drop or collide ECU with solid objects. Keep the coupler away from water and oil.

Throttle Valve Body Assy. (Fig.27)

The throttle valve body Assy., composed of throttle position sensor, throttle valve body and adjusting screw of idle air quantity, are installed between the engine intake manifold and air cleaner.

NOTE Clean the throttle valve body Assy. regularly to keep the system at optimal performance.

Fuel Pump (Fig.28)

Fuel pump is used to deliver fuels from fuel tank to engine at certain pressure and flow rate.

Working condition of fuel pump: when start the ignition switch, the fuel pump will run for 3s, then if the ECU can't detect the effective speed signal



Fig.26

for missing teeth, the fuel pump will stop; when the engine starts to work, the fuel pump will run unless the ECU detects at least 2 effective signal for missing teeth. Without speed signal, the fuel pump will stop.

NOTE

- [1] For the sake of service life of fuel pump, fuels remained in the tank should be $\geq 0.6L$ (as auxiliary fuel tank should be fully loaded).
- [2] Replace or clean the strainer every 10,000km.



Fig.27



Fig.28

Oxygen Sensor (EP)(Fig.29)

The oxygen sensor, installed on the exhaust muffler, is used to test the oxygen content from the engine's exhaust and to realize the closed loop and adaptive control of system.

NOTE

- [1] Make sure that there is no leakage from the connections of muffler and engine exhaust port, oxygen sensor and muffler, otherwise the system will not work normally.
- [2] It is forbidden to knock or impact the oxygen sensor in dismantling, also keep the coupler away from the water and oil.
- [3] It is forbidden to water the oxygen sensor directly in thermal condition that may cause its damage.

IAT sensor (Fig.30)

The part is located in the main cable that's near the air cleaner and used to test the engine intake air temperature.

Cylinder/water Temperature Sensor (Fig.31)

The cylinder/water temperature sensor, mounted on the cylinder body, is designed to measure the temperature of engine.



Fig.29



Fig.30



Fig.31

IAP Sensor (Fig.32)

It connects to the engine intake manifold directly, and can be used to test the engine inlet vacuum and altitude.

NOTE

- [1] Impurities such as water and oil mustn't exist in the IAP sensor.
- [2] Pay attention to the tightness of all connections, otherwise the system will be out of work.

Carbon Canister Valve (Fig.33)

It connects to the engine intake manifold and air cleaner through the rubber hose, and can be used to compensate the inlet quantity at idle speed.

NOTE

- [1] Make sure to install the part in proper direction (as shown in Fig.33).
- [2] Pay attention to the tightness of all connections, otherwise the system will be out of work.

Magneto (Fig.34)

It consists of a 36-2 teeth rotor, stator and speed sensor.

NOTE

- [1] The magneto is a specialized part, so the same model should be used in replacement, or the system will be out of work.
- [2] Keep the clearance between speed sensor and magneto rotor flange is 0.7 ~1mm, or the system's starting performance will be affected.



Fig.32



Fig.33

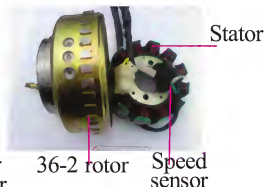


Fig.34

Engine Intake Manifold (Fig.35)

It is composed of intake manifold, fuel injector and fuel rail.

NOTE

[1] Please check the insulator O-ring for damage in dismantling, also install it in proper method. Make sure the tightness of air passages without leaking.

[2] Keep the cleanness of oil hose in dismantling, otherwise, the electro-magnetic fuel injector will be blocked to affect the normal working of system.



Fig.35



Fig.36

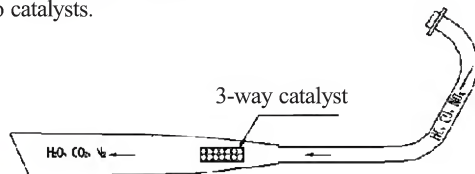
Ignition Coil (Fig.36)

The ignition coil is a inductive one with great ignition energy.

NOTE The same model part has to be used in replacement, or the system can't work normally.

3-Way Catalyst (EP)

The 3-way catalyst is mounted on the exhaust muffler of motorcycle. It is designed to decrease contaminations such as CO, HC and NO_x, etc. by redox reaction to catalysts.



NOTE

[1] In order to avoid causing abnormal failure of 3-way catalyst, it is forbidden to allow the acid liquor, water etc. entering into the exhaust muffler. Unleaded gasoline should be used.

[2] It is forbidden to do the spark-over test when the engine is still hot, otherwise the 3-way catalyst may be damaged.

MIL

When turn on the ignition switch but not start the engine, the MIL will be always on if there is no fault in the current system, or else it blinks in accordance with certain Fault Code Sheet; when the engine has been started, if there are something wrong, the MIL will light constantly to remind the users of fixing the motorcycle as soon as possible, otherwise, the MIL will turn off. Rule of fault code flashing: One fault code is made of two digits. Firstly the tens digits flicker, then the unit digits, the two interval is about 1.5s. If there are several faults in the system, the two fault codes' interval is about 6s.

FAULT CODE TABLE

Fault Code	Flashing Code	Fault Type	Fault Code	Flashing Code	Fault Type
P0261	11	Open circuit of fuel injector	P0603	25	ECU failure
P0262	12	Short circuit of fuel injector to power	P0117	32	Cylinder/water temp. short circuit to ground
P0650	13	MIL failure	P0118	32	Open circuit of cylinder/water temp. or short circuit to power
P0508	14	Open circuit of idle valve	P0112	33	IAT short circuit to ground
P0509	15	Short circuit of idle valve to power	P0113	33	Open circuit of IAT or short circuit to power
P0231	16	Open circuit of fuel pump relay	P0563	34	System voltage failure
P0232	17	Short circuit of fuel pump relay to power	P0335	35	Speed sensor failure
P0655	18	Drive failure of water temperature light	P0031	41	Open circuit of oxygen sensor heating circuit
P0634	19	Internal ECU overheating	P0032	42	Short circuit of oxygen sensor heating circuit
P0122	22	Short circuit of throttle position sensor to ground	P0106	26	Trouble in testing the pressure sensor load
P0123	22	TPS short circuit to power	P0691	43	Open circuit of fan relay
P0107	23	Short circuit of pressure sensor to ground	P0692	44	Fan relay short circuit to power
P0108	23	Open circuit of pre. sensor or short to power	P2300	46	Open circuit to ignition
P0131	24	Low voltage of oxygen sensor	P2301	46	Short circuit to ignition
P0132	24	Oxygen sensor open circuit or high voltage	P0685	56	System relay failure (electricity maintaining)

USE AND ADJUSTMENT OF EFI SYSTEM

1. Adjustment of throttle cable

Measure the free play between throttle cable and cable tray at its ordinary state, that is should be 2~6mm. If not, adjust it as follows:

- [1] Loose the locknut and remove the boot.
- [2] Turning the adjustment screw, adjust the throttle cable to a proper length.
- [3] Tighten the locknut up and put the boot to the original position.
- [4] If such adjustment is unsatisfied, adjust the other end fixed on the throttle cable stay.

NOTES

Adjustment over, check the operation of throttle grip and make sure that the grip functions smoothly without stop or block.

2. Adjustment of EFI

If the new or repaired vehicle which is used for the first time or engines have malfunction, please check and adjust them as follows:

- [1] Check the assembly condition of vehicle, engine and all parts in EFI. Special attention should be paid that the negative and positive electrodes of the battery cannot be connected adversely and the grounding reliability of wire harness also should be confirmed.
- [2] Make sure that the fuel type in fuel tank is correct and the amount of fuel is sufficient (not less than 0.6L). Check the oil circuit for leakage or immersion.
- [3] Turn on the ignition switch (while do not start the engine), the fuel pump will turn for 3~6s. In normal case, the MIL will light constantly, otherwise, remedy the troubles in light of fault flashing code and then do the next step.
- [4] Set the transmission into neutral, start the engine after checking the brake, then make trial of the vehicle and check it for proper function.

NOTES

- [1] Start the engine for longer time due to air in fuel pipe for a new vehicle or repaired one which is used for the first time.
- [2] If such service is still unsatisfactory, see your dealer for help.

OPERATION OF THROTTLE (Fig.37)

● Check for smooth rotation of the throttle grip from the fully open to the fully closed position at both full steering position.

● Measure the throttle grip free play at the throttle grip angle. The standard free play should be approx. 2-6mm. To adjust the free play, loosen the locknut, turn the adjusting bolt. Turn to direction A, the free play will be decreased, to direction B, it will be increased.

Adjustment over, fasten the locknut.

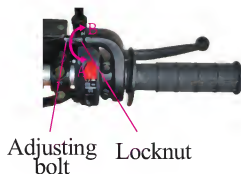


Fig.37

CHECK LEAKS ALONG THE AIR SUPPLY (EP)

Regularly check the air passage, especially such as joints between the muffler and engine, the air cleaner and throttle valve body, the throttle valve body and engine, etc. for leakage. Repair or replace them if necessary.

CLUTCH (Fig.38)

● The free play should be 10-20mm and free clearance is 3-4mm.

Adjust as follows: loosen the locknut ① located at the clutch cable holder ② of right crankcase and adjust it.

● Turning in direction A to decrease the free play, in direction B to increase it.

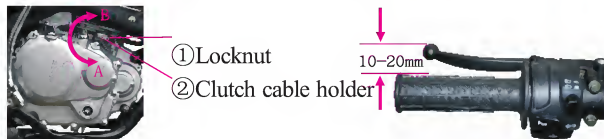


Fig.38

DRIVE CHAIN (Fig.39)

Check

Check the drive chain for wear and slack. Lubricate the chain if it seems to be dry. Support the motorcycle with the center stand, check the slack in the lower chain run midway between the sprocket. Slack should be 10-20 mm.



Fig.39

Adjustment

Loosen the rear axle locknut and drive chain adjuster locknut, turn the adjusting bolt to direction A will tighten the chain, to direction B will release it. Make sure the left and right adjusters align with the same index marks, check and tighten the rear axle locknut up with a torque of $80 \pm 8 \text{ N.m}$.

※ Check the chain for slack.

※ If slack of chain is changed, recheck and readjustment to rear wheel should be conducted, because such change will influence the free play of rear brake.

Lubrication

Pull out the chain clip with pliers, remove the joint and chain. Wash the chain in cleansing solution and dry it in the air. Check the chain including link plates, bushing and rollers for damage, cracks, wear-out. Replace it if necessary. Lubricate the chain, then reinstall in the reverse order of removal, finally adjust it.

NOTE The chain clip shall be installed as to make sure that its open end reverses to the direction of wheel rotation.



Fig.40 ①Front brake lever ②Sight glass ③Brake master cylinder
④Screw ⑤Cylinder cover ⑥Brake caliper

FRONT BRAKE (Fig.40)

The brake master cylinder is mounted on the right handlebar.

The parts on the brake caliper ⑤ that connect with brake disc and conduct friction brake are called as disc brake shoes. It is necessary to replace the disc brake shoe as it wears to limit.

Place the motorcycle on the level ground. Check the brake fluid level from the sight glass. If the fluid level is below the LOWER, loose the screw and remove the cylinder cover to add brake fluid.

⚠WARNING Apply the specified brake fluid, or the braking effectiveness will be affected. Brake fluid may cause irritation. Avoid contacting with skin and eyes. In case of contact, flush thoroughly with water.

REAR BRAKE (Fig.41)

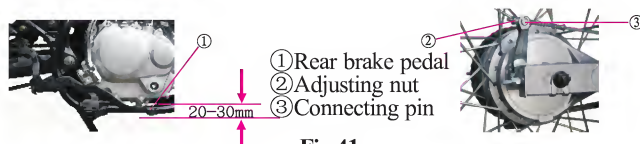


Fig.41

Support the vehicle on its center stand. Measure the distance from the rear brake pedal ① to the brake starts to engage. The free play should be 20~30 mm. To adjust it, turn the adjusting nut clockwise, the free play will be decre-

ased, and turn counterclockwise, it will be increased.

※Apply the rear brake pedal several times and check for free wheel rotation after the brake pedal is released.

NOTE Adjustment over, keep the arc groove ② of adjusting nut locating on the pivot ③ of rear brake. If such adjustment is still unsatisfactory, see your dealer for help.

HOW TO USE BRAKE WEAR INDICATOR

(Fig.42 & Fig.43)

Replace the shoes of front caliper if they are worn out.

There is an indicator fixed in the arm of rear brake, and a reference scale on the brake cover. When fully apply the brake to the vehicle, if the indicator aligns with the reference scale, it is necessary to replace the brake shoes.



Fig.42

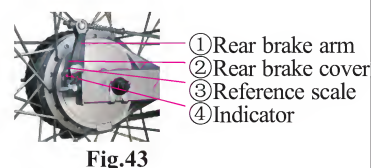


Fig.43

FRONT/REAR SHOCK ABSORBER AND SUSPENSIONG

Grasp the front brake lever and pump the front/rear shock absorber up and down several times to see if them function well without noise or leakage, also the front suspension should be stable. Check the rear fork bush for proper play by pressing the side of rear wheel. Make sure that all of the fasteners are tightened securely.

TYRE

Proper air pressure will provide optimum stability, comfortable riding and prolong the tyre life.

Tyre Pressure (KPa)		
Max pressure in cold	Front tyre:280	Rear tyre:280
Recommended pressure	Front tyre:175~200	Rear tyre:200~225
Tyre size	Front: 90/90-19	Rear:110/90-17

NOTE

● Operation with excessively worn tyres is hazardous and will adversely affect traction and handling.

● Tyre pressure should be checked before you ride while the tyres are cold. Check the tyres for cuts, embedded nails, or other sharp objects. Check the rims for bent or deformation. See your dealer for repair or change if any damages occurred.

△CAUTION Improper tyre inflation will cause abnormal tread wear or safety hazard. Tyre pressure less than the rated value may result in slipping wheel on the ground or coming off from the rim.

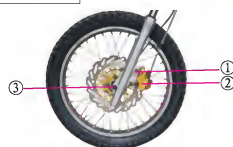
When the tread depth in the middle section of tyres reached limits below, please replace them.

Tread Depth Limits			
Front tyre	0.8mm	Rear tyre	0.8mm

FRONT WHEEL (Fig.44)

To remove the front wheel, release the bolt on the front brake caliper and remove the caliper. Then loose the front axle nut to remove the front axle and front wheel.

NOTE Installation should be done in the reverse order of removal. Tightening torque of front axle nut: $75 \pm 6 \text{ N.m}$.



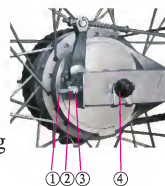
- ① Bolt
- ② Front brake caliper
- ③ Front axle

Fig.44

REAR WHEEL (Fig.45)

Unscrew the locknuts of chain adjuster on both sides of rear wheel, and the rear axle nut, adjusting bolt. Remove the drive chain clip and chain. Finally unscrew the rear axle nut to extract the rear axle and rear wheel.

NOTE Installation shall be done in the reverse order of removal. Tightening torque of rear axle nut: $80 \pm 8 \text{ N.m}$. Adjust the rear brake and chain according to the related items in the manual.



- ① Adjusting bolt
- ② Locknut
- ③ Adjusting nut
- ④ Rear axle nut

Fig.45

FUSE (Fig.46)

The fuse is positioned behind the seat and near the battery stay. It will blow to protect the circuit automatically in the case of troubles such as a short circuit or an overload. After the troubleshooting, fit a new fuse available in the fuse box.



Fuse

Fig.46

BATTERY (EP) (Fig.47)

The battery is located rear behind the seat.

△CAUTION

Be sure not to discard the used electrolyte or battery at will, it should be submitted to the qualified waste recycling department or reclaimed by the dealer in local.

△WARNING

If the battery is to be removed, disconnect the negative lead “-” from the battery terminal first, and then the positive lead “+”. Connection should be done in the reverse order of removal. Do not contact the positive lead with the vehicle body to prevent short-circuit. The leads should be tightened securely, or spark may occur to cause a fire.



Fig.47


TROUBLESHOOTING, STORAGE AND OPTIONAL PARTS

TROUBLESHOOTING

If the engine fails to start, do checks as follows:

1. Is there enough fuel in the tank?
2. Is the oil gallery clear?
3. If OK, check the ignition system.

⚠CAUTION Do not allow fuel to flow at will. Fuel should be collected in the container. Do not close the fuel to high-temperature engine and exhaust pipe. Do not smoke or allow flames or sparks in the area where the engine is subjected to check.

1. Remove the spark plug and connect it with the spark plug cap.
2. Fix the spark plug on the vehicle body. Turn the ignition switch on, step the gearshift pedal and the engine will be in neutral, then set the emergency switch to “” position, press the starter button. If the ignition system is normal, the sparks at the electrode gap will be in blue. If there are no sparks, see your dealer for help.

CLEANING AND STORAGE

Cleaning

1. Check the spark plug and fuel inlets for proper installation before cleaning the vehicle.
2. Hose dirt and oil stains on the motorcycle.
3. Dry the motorcycle with a clean towel or a soft sponge cloth.
4. Lubricate the drive chain immediately after drying it.
5. Start the engine, and keep it running at idle speed for several minutes.

NOTE High-pressure water may damage certain parts such as wheel bearings, front fork, brakes, seal of transmission, electric equipment, etc. Prevent the muffler from getting in water, the spark plug from being wetted down when washing the vehicle.

Storage

Take some measures as following if the vehicle will be stored for 60 days or more.

1. Empty the fuel tank (including auxiliary fuel tank), other pipes and gallery.

2. Drive off the spark plug, pour a bit of engine oil SAE15W/40 into the engine, then fit the spark plug again. Turn on the ignition switch and run the engine several times by pressing the starter button to scatter evenly the oil inside the cylinder.
3. Remove the drive chain, clean and oil it.
4. Lubricate all of the controlling cables.
5. Rise the vehicle frame so that the whole vehicle including both wheels is higher than the ground.
6. Seal the muffler outlet with a plastic bag to prevent the former against moisture.
7. Coat all surfaces of bare metal with a thin layer of rust resistance oil if the motorcycle is stored in moist and salty regions.
8. Dismantle the battery and store in a dry, cool and well-ventilated place. Charge the battery monthly in course of storage.

REMOVE FROM STORAGE

After long-term storing the motorcycle, check, adjust and service it according to requirements stated in the manual to make sure the motorcycle functions properly. Make sure the motorcycle fulfill the requirements before riding.

TROUBLESHOOTING

	TROUBLE		POSSIBLE CAUSES		REMEDY		
Engine is hard to start or flame out	Fuel pump fails to function		System is lack of electricity or no power at the pump plug		Check the battery, fuse, pump relay, wiring harness for connection or replace the ECU		
			The fuel pump plug has electricity	Damaged fuel pump	Replace the fuel pump		
				Low voltage	Check the battery, relay and wire connection		
	Fuel pump functions		No fuel pressure		Wires in reverse connection	Reconnect	
					Battery voltage is too low	Charge or replace the battery	
					Lack of fuel	Add fuel and the amount should be not less than 0.6L	
					Fuel passage is blocked seriously	Check the fuel pump strainer	
					Failure of fuel pressure regulator	Replace the fuel pressure regulator	
			Abnormal fuel pressure		Fuel passage leaks		Replace the failure part
					Fuel passage is blocked		Check the fuel pump strainer
					Failure of fuel pump or pressure regulator		Replace the fuel pump or pressure regulator
					Insufficient power supply		Check the battery, rectifier, magneto
			Normal fuel pressure	Ignition with high voltage	Spark plug is too humid to work		Remove and dry the spark plug, rotate at idle for several times
					Insulator of spark plug is leaking		Replace the spark plug
					Loose spark plug		Tighten up
					Spark plug gap is too small		Adjust to standard value

				Poor connection or electricity leakage of high voltage cap	Adjust or replace
				Wires failure or poor connection	Check the wiring harness, throttle position sensor for connecting properly
				Damaged cylinder/water temperature sensor	Replace
				Failure of engine	Check the valve, piston ring, etc.
			No high voltage in ignition or cutoff	Poor connection of ignition circuit	Check and repair the circuit
				Excessive gap of magneto induced coil	Adjust the gap
				Damaged ignition coil	Replace
				Output of ignition coil is leaking	Replace the boot or ignition coil
				Poor connection of ECU or wiring harness connectors	Check and reconnect
				Clogged injector	Replace
			Unstable idle speed	Insufficient power supply	Check the battery or charging system
				Poor connection of ECU or injector connectors	Check and reconnect
				Air leakage from throttle valve body	Check the pad, O-ring or throttle valve body for proper installation
				Dirties in throttle valve body or air cleaner is clogged	Clean
				Fuel flowing is restricted	Check the fuel pump container and fuel passage for clogs
				Poor quality fuel	Replace the fuel to unleaded gasoline with RQ-87 or higher
				Loose spark plug	Tighten up
Spark plug gap is too small	Adjust to the standard value				
Poor connection or electricity leakage of spark plug cap	Adjust or replace				
Insulator of spark plug is leaking	Replace the spark plug				

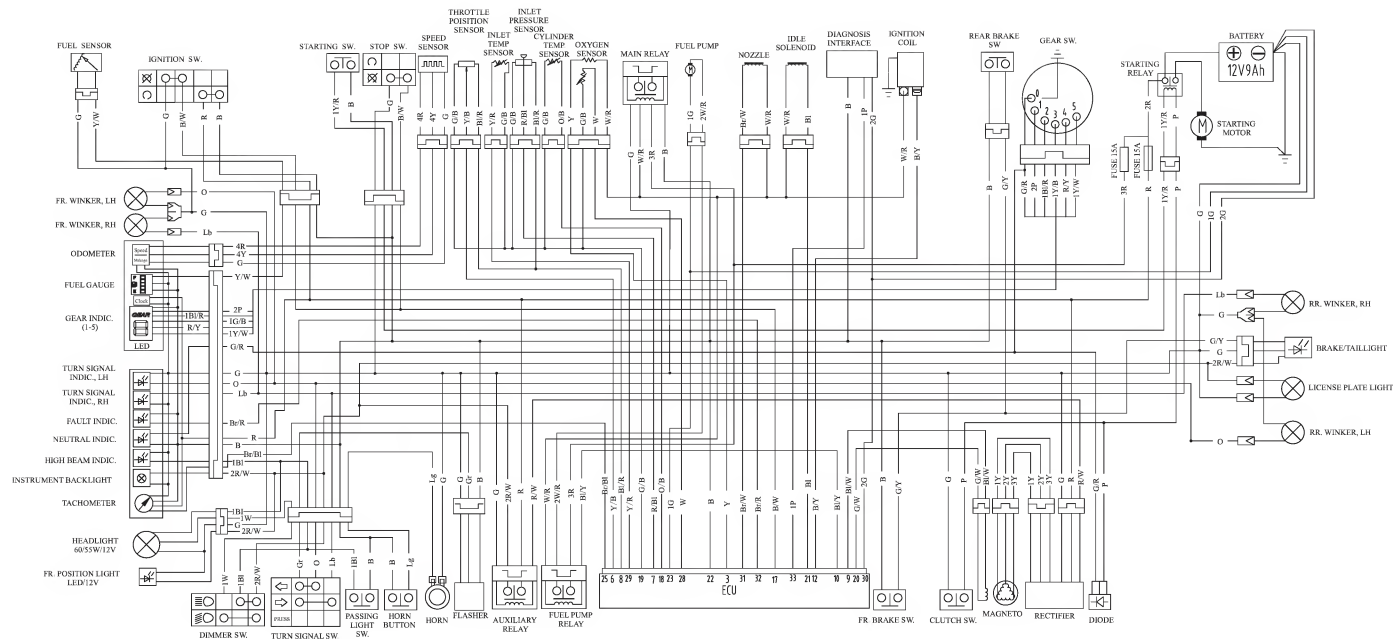
	Engine failure such as the valve gap is too small	Adjust the valve gap and check the engine
	Leakage from joints of muffler and oxygen sensor	Check the muffler pad
	Restricted air flowing or leakage of carbon canister valve	Check or replace
Abnormal or knocking noise from engine	Over-heat engine	Cool down, avoid driving at a high speed for a long time
	Poor spark plug	Replace
	Too much carbon deposits on the cylinder	Remove and clean away
	Engine connecting rod is worn heavily	Replace
	Piston pin is worn seriously	Replace
	Crank is worn	Replace
	Crankcase is worn	Replace
	Foreign matters get in the engine	Check and clean away
	Too much carbon deposits on the exhaust pipe	Clean away
	Others	Clean off
Lack of power	Air cleaner is clogged	Clean off
	Heavily carbon deposits in the combustion chamber and exhaust pipe	Clean away
	Piston and cylinder are worn, the gap is large	Replace the cylinder or piston
	Clutch slipping	Adjust or repair

	Clogged fuel passage or lower fuel pressure	Check, clean or replace the fuel pump Assy. strainer, pressure regulator, fuel pump or injector nozzle
Large fuel consumption	Leakage through fuel passage	Repair
	Engine failure	Repair or replace
	Damaged cylinder/water temperature sensor	Replace
	Damaged fuel pump	Replace
	Air cleaner is clogged	Clean off
Lower fuel pressure or clogged passage	Poor quality fuel	Use unleaded gasoline with RQ-87 or higher
	Fuel pump Assy. strainer is clogged	Clean or replace. Don't contaminate the outlet port
	Fuel pressure regulator fails to function	Replace
	Fuel pump fails to function	Replace
Lower voltage in the system	Improper circuit connection	Check
	Rectifier is unable to charge	Check or replace
	Magneto functions improperly	Check it for short-circuit
	Battery is aged	Maintain or replace
	Electricity consumption is too large	Avoid driving at a lower speed for a long time
Leakage through the engine inlet manifold	Leakage from the joints of inlet manifold and cylinder head	Check the pad and O-ring, fit them properly
	Leakage from the joints of inlet manifold and injector	Check the O-ring
	Sand holes in the inlet manifold	Replace

FAULT FEEDBACK OF EFI MOTORCYCLE

Customer Name		Purchase Time		VIN	
Address		ECU Number		Engine Code	
Telephone		Vehicle Type		Mileage	
Fault Frequency		<input type="checkbox"/> Often <input type="checkbox"/> Sometimes <input type="checkbox"/> Only once <input type="checkbox"/> Other			
Fault Occurrence Condition	Climate	<input type="checkbox"/> Winter <input type="checkbox"/> Summer <input type="checkbox"/> Sunny <input type="checkbox"/> Cloudy <input type="checkbox"/> Rainy <input type="checkbox"/> Snowy <input type="checkbox"/> Other			
	Driving Terrain	<input type="checkbox"/> Highway <input type="checkbox"/> Ordinary road <input type="checkbox"/> Rough road <input type="checkbox"/> Plain <input type="checkbox"/> Highland <input type="checkbox"/> Uphill <input type="checkbox"/> Downhill <input type="checkbox"/> Other			
	Engine Temperature	<input type="checkbox"/> Cold <input type="checkbox"/> Warm up <input type="checkbox"/> Warm <input type="checkbox"/> Any <input type="checkbox"/> Other			
	Engine working condition	<input type="checkbox"/> In starting <input type="checkbox"/> After starting <input type="checkbox"/> Idling & no-load <input type="checkbox"/> In driving (<input type="checkbox"/> Constant speed <input type="checkbox"/> Acceleration <input type="checkbox"/> Deceleration) <input type="checkbox"/> Other			
Fault Phenomenon	<input type="checkbox"/> Fail to start	<input type="checkbox"/> Unable to start <input type="checkbox"/> Without starting sign <input type="checkbox"/> With starting sign			
	<input type="checkbox"/> Hard to start	<input type="checkbox"/> Low rotate speed <input type="checkbox"/> Other			
	<input type="checkbox"/> Improper idle speed	<input type="checkbox"/> Unstable <input type="checkbox"/> High <input type="checkbox"/> Low <input type="checkbox"/> Rough <input type="checkbox"/> Other			
	<input type="checkbox"/> Lack of power	<input type="checkbox"/> Hesitating acceleration <input type="checkbox"/> Tempering <input type="checkbox"/> Blowout <input type="checkbox"/> Futter <input type="checkbox"/> Knocking <input type="checkbox"/> Other			
	<input type="checkbox"/> Fire off	<input type="checkbox"/> At once <input type="checkbox"/> Acceleration <input type="checkbox"/> Oil return <input type="checkbox"/> Engage <input type="checkbox"/> Other			
	<input type="checkbox"/> Other				
Suggestions					

ELECTRIC DIAGRAM



SPECIFICATIONS

Vehicle type	HUNIER
1. Dimensions	
Overall dim.(L×B×H), mm	2050×835×1130
Steering bar angle ^o	45
Ground clearance, mm	240
Turning circle dia., mm	4100
Wheelbase, mm	1350
Kerb weight, kg	136
Max. load capacity, kg	160
Max. design speed, km/h	≥95
Economical fuel cons., L/100km	≤2.9
Grade ability ^o	≥22
Front tyre size/pressure	90/90-19
Rear tyre size/pressure	110/90-17
Front shock absorber	Hydraulic damping type
Rear shock absorber	Hydro-pneumatic damping type
Front brake	Disc, by hand
Rear brake	Drum, by foot
Fuel filler capacity, L	11
2. Engine	
Model	163FML-2L
Type	Single cylinder, 4-stroke, air-cooled
Bore×Stroke, mm	63.5×62.2
Displacement, mL	197
Compression ratio	9.0:1
Starting mode	Electric/kick starter

Ignition mode	ECU
Max. net power, kW/r/min	9.5/7000
Max. torque, N. m/ r/min	14/5500
Engine oil	SAE15W/40
Engine oil capacity, L	1.1
Lubrication	Press/splash
Fuel	Unleaded gasoline with RQ-87 or higher
Clutch type	Wet multi-plate
Transmission type	5-speed, constant mesh
Primary gear ratio	3.333
Gear ratio, 1st(I1)	2.769
Gear ratio, 2nd(I2)	1.882
Gear ratio, 3rd(I3)	1.450
Gear ratio, 4th(I4)	1.130
Gear ratio, 5th(I5)	0.960
Final gear ratio (If)	3.067
3. Electric equipment	
Battery	12V3Ah
Spark plug	DR8EA
Headlight	12V60W/55W
Winker	12V1.2W
Tail/Stop light	12V3.84/0.36W
Horn	Electric, 12V
Odometer light	LED/8mA
Fuse, A	15

HMC-Emission Control System Warranty Statement YOUR WARRANTY RIGHTS AND OBLIGATIONS

The U.S. Environmental Protection Agency and **American Lifan, Inc.** (hereinafter **MFR**), are pleased to explain this Emission Control System Warranty on your motorcycle. New motor vehicles must be designed, built, and equipped to meet U.S. EPA standards. **MFR** must warrant the emission control system on your motorcycle for the period of time listed below provided there has been no abuse, neglect or improper maintenance of your motorcycle.

A Warranty Statement: Replacement Parts, Service and Warranty. Any certification issued under this procedure is conditional upon full compliance with the design and defects emissions warranty requirements in the Federal Clean Air Act (42 U.S.C. §7401 et seq) for the applicable useful life (as specified in 40 CFR 86.402-78) in which the engine is installed.

Your emission control system may include components such as the carburetor or fuel-injection system, the ignition system, catalytic converter and engine computer. Hoses, belts, connectors and other emission-related assemblies may also be included.

Where a warrantable condition exists, **MFR** will repair your motorcycle at no cost to you, including diagnosis, parts and labor.

MANUFACTURER'S WARRANTY COVERAGE

● The warranty period begins on the date the motorcycle is delivered to the first vehicle owner and subsequently continuous to the ultimate vehicle owner thereafter and covers the useful life of the HMC per for **18,000 km (11,185 miles) or 5 (five) years** from the date of initial retail delivery, whichever first occurs.

If an emission-related component on your motorcycle is defective, the defective parts will be repaired or replaced by **MFR**. This is your Emission Control System DEFECTS WARRANTY.

OWNER'S WARRANTY RESPONSIBILITIES

● As a motorcycle owner, you are responsible for the performance of the required maintenance listed in your owner's manual. **MFR** recommends that you retain all receipts covering maintenance on your motorcycle, but **MFR** cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

● You are responsible for presenting your motorcycle to a **MFR** dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

● As the motorcycle owner, you should be aware that **MFR** may deny your warranty coverage if your motorcycle or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

● In case no **MFR** authorized dealer is in the vicinity, the **MFR** warranted vehicle's repair can be conducted by a local licensed mechanic workshop. **MFR** will reimburse the ultimate vehicle owner for all expenses including diagnosis, warranted part(s) and repair labor charges once paid by the ultimate vehicle owner. **MFR** will deliver warranted parts to the licensed mechanic workshop or the ultimate vehicle owner for the Warranty repair job done at the **MFR** approved licensed mechanic workshop at vehicle owner's convenience with no cost to the ultimate vehicle owner.

● The ultimate vehicle owner will be required to send the original copy of receipt of repairs conducted by the licensed mechanic workshop for reimbursement by the **MFR**.

If you have any questions regarding your warranty rights and responsibilities, you should contact **MFR** by the Toll Free **1-855-875-4326**. You can always contact U.S. Environmental Protection Agency, 2000 Traverwood Drive, Ann Arbor, MI 48105 for any Emission Control System Warranty related complaints about the **MFR**. But for actual Warranty related repair job, you should only contact **MFR** by Warranty service number printed on this Warranty statement included in the Owner's Manual or on MFR's website; or the Dealer where your vehicle is purchased, or other **MFR** authorized local Dealer near you.

LIMITED WARRANTY ON EMISSION CONTROL SYSTEM

MFR warrants that each new **MFR** motorcycle, which includes as standard equipment a headlight, taillight and stoplight, and is street legal:

A. is designed, built and equipped so as to conform at the time of initial retail purchase with all applicable regulations of the United States Environmental Protection Agency and section 42 USC §7521.

B. is free from defects in material and workmanship which cause such motorcycle to fail to conform with applicable regulations of the United States EPA for a period of use of: **1.18,000 km (11,185 miles) or 5 (five) years** from the date of initial retail delivery, whichever first occurs.

1. COVERAGE. Warranty defects shall be remedied during customary business hours at any **MFR** authorized dealer or a licensed mechanic located within the United States of America in compliance with the Federal Clean Air Act and applicable regulations of the United States Environmental Protection Agency. Any part or parts replaced under this warranty shall become the property of **MFR**.

2. LIMITATIONS. This Emission Control System Warranty shall not cover any of the following:

A. Repair or replacement required as a result of

- (1) accident;
- (2) misuse;
- (3) repairs improperly performed or replacements improperly installed;
- (4) use of replacement parts or accessories not conforming to **MFR**'s specifications which adversely affect performance and/or;
- (5) use in competitive racing or related events.

B. Inspections, replacement of parts and other services and adjustments required for required maintenance.

C. Any motorcycle on which the odometer mileage has been changed so that actual mileage cannot be readily determined.

3. LIMITED LIABILITY

A. The liability of **MFR** under this Emission Control System Warranty is limited solely to the remedying of defects in material workmanship by a **MFR** authorized dealer at its place of business during customary business hours. This warranty does not cover inconvenience or loss of use of the motorcycle or transportation of the motorcycle to or from the **MFR** dealer. **MFR** SHALL NOT BE LIABLE FOR ANY OTHER EXPENSES LOSS OR DAMAGE, WHETHER DIRECT, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY ARISING IN CONNECTION WITH THE SALE OR USE OF OR INABILITY TO USE THE **MFR** VEHICLE FOR ANY PURPOSE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

B. NO EXPRESS EMISSION CONTROL SYSTEM WARRANTY IS GIVEN BY **MFR** EXCEPT AS SPECIFICALLY SET FORTH HEREIN. ANY EMISSION CONTROL SYSTEM WARRANTY IMPLIED BY LAW, INCLUDING ANY WARRANTY OF THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS LIMITED TO THE EXPRESS EMISSION CONTROL SYSTEM WARRANTY TERMS STATED IN THIS WARRANTY. THE FOREGOING STATEMENTS OF WARRANTY ARE EXCLUSIVE AND IN LIEU OF ALL OTHER REMEDIES. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

C. No dealer is authorized to modify this Limited Emission Control System Warranty.

4. LEGAL RIGHTS. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE

5. THE EMISSION CONTROL SYSTEM WARRANTY IS IN ADDITION TO THE MFR GENERAL MOTORCYCLE LIMITED WARRANTY.

6. THE EMISSION CONTROL SYSTEM WARRANTY REPAIRS ELIGIBILITY EVALUATION

Your vehicle's eligibility for **MFR** Warranty repairs shall be evaluated by **MFR** or at **MFR** authorize Dealer's store where your vehicle is purchased. If Warranty repair is done at a local licensed mechanic workshop (with Lic #), the ultimate vehicle owner is required to call or email **MFR** and provide the following information for Warranty repairs eligibility evaluation prior to your Warranty Claims:

- Invoice number and purchase date;
- VIN number of the vehicle;
- Picture of the faulty parts;
- Labor charge for the repairs quoted by the mechanic workshop.

7. EMISSION CONTROL SYSTEM WARRANTY PARTS DELIVERY AND LABOR CHARGE REIMBURSEMENT

A. **MFR** will deliver the repair parts at no cost to the ultimate vehicle owner or the licensed mechanic workshop you choose (if no **MFR** authorized local dealer is available), using express mail once your vehicle Warranty repairs eligibility is established.

B. The ultimate vehicle owner has to mail in the actual repair cost receipts to **MFR** for reimbursement.

C. **MFR** will reimburse the ultimate vehicle owner the Warranty repair labor cost once your Warranty repair is completed by the approved local licensed mechanic workshop.

8. ADDITIONAL INFORMATION

● **MFR** recommend that OEM parts be used when Warranty repairs are needed. Nonetheless, any replacement part that is equivalent in performance and durability may be used in the performance of any maintenance or repairs. The **MFR** Warranty is still effective under such circumstance. However the ultimate vehicle owner is responsible for the performance of all required maintenance listed in your Owner's Manual.

● **MFR** recommends that you retain all receipts covering maintenance on your vehicle, but **MFR** cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

9. CUSTOMER COMPLAINTS AND WARRANTY CLAIMS TRACKING

To ensure Warranty parts complains and repairs are handled and tracked securely and timely, **MFR** provides 'WARRANTY REGISTRATION CARD' (Appendix A) that needs to be completed by purchaser or dealer before purchaser receive **MFR** motorcycle. This will also register **MFR** with Warranty.

10. EMISSION DEFECT REPORT TO GOVERNING BODY

MFR will monitor Warranty Claims entry in a timely manner and will report to EPA once such specific emission-related defects exist in twenty-five (25) or more vehicles or engines of the same model year, per 40 CFR §85.1903(a)(2).

11. MANUFACTURER INFORMATION

IMPORTER

AMERICAN LIFAN,INC

9272 HYSSOP DRIVE,

RANCHO CUGAMONGA,CA

UNITED STATES 91730

WARRANTY REGISTRATION CARD

9272 HYSSOP DR, RANCHO CUGAMONGA, CA, US 91730

Fill out this form and send back to American Lifan for registration of Warranty within 5 business days of purchase.

MODEL NUMBER	SERIAL NUMBER
YOUR NAME(Please Print)	
STREET ADDRESS	
CITY,STATE,ZIP	
DEALER NAME	
DEALER PHONE NUMBER	DATE OF PURCHASE
I agree to be bound by the terms of this Warranty, as presented in the Owner's Manual for this product.	
CUSTOMER SIGNATURE	